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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JOHN B. FERBER, SCOTT FERBER, STEIN E. KRETSINGER, ROBERT LUENBERGER, and DAVID LUENBERGER

Appeal 2015-002917
Application 12/700,696[1]
Technology Center 3600

Before ANTON W. FETTING, BRUCE T. WIEDER, and SHEILA F. McSHANE, *Administrative Patent Judges*.

McSHANE, *Administrative Patent Judge*.

DECISION ON APPEAL

The Appellants seek our review under 35 U.S.C. § 134(a) of the Examiner's final decision to reject claims 10–12, 15–21, and 24–29. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

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[1] According to Appellants, the real party in interest is Facebook, Inc. Appeal Brief filed June 3, 2014, hereafter "Appeal Br.," 2.

BACKGROUND

The invention relates to optimizing advertisement selection for Internet-related ads. Specification, hereafter "Spec.," 4:20–21. The optimal advertisement selection includes the use of a set of attributes for each customer, association of the advertisement with an ad-attribute profile, and optimal selection based on click probability estimates and uncertainties regarding these estimates. *Id.* at 4:22–5:6.

Representative method claim 10 is reproduced from page 18 of the Appeal Brief (Claims App.) as follows, with emphasis added to the disputed limitations:

> 10. A computer-implemented method comprising:
>
> establishing a customer profile for a customer, the customer profile including product attributes related to a product of interest to the customer;
>
> computing, by at least one processor, a click probability estimate representing a likelihood that the customer will select an advertisement based on the advertisement and the product attributes of the customer profile;
>
> determining, by the at least one processor, *an uncertainty level of the click probability estimate, the uncertainty level being inversely proportional to a number of times the advertisement has been previously presented*;
>
> *adjusting the click probability estimate based on the determined uncertainty level to calculate an uncertainty-adjusted click probability estimate*;
>
> causing the advertisement to be presented to the customer, over an electronic network, based on the uncertainty-adjusted click probability estimate;
>
> receivmg, over the electronic network, a response to the advertisement from the customer; and

> reducing the uncertainty level associated with the uncertainty-adjusted click probability estimate based on the received response to the advertisement.

In a Final Office Action, the Examiner rejects claims 10–12, 15–21, and 24–29 under 35 U.S.C. § 103(a) as unpatentable over McElfresh[2] and Robinson[3]. Final Action, hereafter "Final Act.," 2–16, mailed January 31, 2014; Answer, hereafter "Ans.," 2–16, mailed October 28, 2014. In the Answer, the Examiner enters a new ground of rejection for claims 10–12, 15–21, and 24–29 under 35 U.S.C. § 101 as directed to non-statutory subject matter. Ans. 17. The Appellants exercise the option to maintain the appeal with the filing of a Reply Brief, with the Reply Brief addressing each ground of rejection under 37 C.F.R. § 41.39(b)(2). Reply Brief, hereafter "Reply Br.," 2–9, filed December 29, 2014.

DISCUSSION

The Appellants argue the rejection of claims 10–12, 15–21, and 24–29 under § 101 on the same issues, and address the claims together as a group. *See* Reply Br. 2–9. In response to the § 103 rejections, independent claims 10, 18, and 27 are argued on similar issues, and with dependent claims 11, 12, 15–17, 19–21, 24–26, 28, and 29 standing or falling with the independent claims. Appeal Br. 8–16. We will address the claims in a similar manner.

35 U.S.C. § 101

The Examiner finds that claims 10–12, 15–21, and 24–29 are directed to non-statutory subject matter that does not amount to significantly more

[2] US Patent 6,907,566 B1, issued June 14, 2005.
[3] US Patent 5,918,014, issued June 29, 1999.

than an abstract idea because the claims are directed to targeted marketing that is a fundamental economic practice and/or method of organizing human activities. Ans. 17. Additional claim elements are not found to be significantly more than an abstract idea because the claims "do not include an improvement to another technology or technical field, an improvement to the functioning of the computer itself, or meaningful limitations beyond generally linking the use of an abstract idea to a particular technological environment." *Id.* The Examiner also finds that the limitations of the claims are performed by a generically recited processor. *Id.*

The Appellants argue that the claims at issue are not directed to an abstract idea because they do not claim a fundamental business practice and, instead, are directed to a business challenge particular to the Internet. Reply Br. 2–5. The Appellants refer to *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014) ("*DDR*"), which found that because, "[a]lthough the claims address a business challenge . . ., it is a challenge particular to the Internet." *Id.* at 3. The Appellants allege that the claims are directed towards optimal ad selection for web pages based on a set of attributes associated with each customer and a click probability estimate that uses an uncertainty level of the click probability estimate. *Id.* at 4. As such, the Appellants contend that, similar to *DDR*, the claims are not directed to a fundamental economic practice because they are directed towards a business challenge particular to the Internet, and the claims are also not a method of organizing human activities. *Id.* at 5.

The Appellants further argue that, even if the Examiner's findings regarding an abstract idea are adopted, the claims represent significantly more than an abstract idea. Reply Br. 5. In support of the allegation, the

Appellants refer to the claims that determine whether a new ad will be popular using the uncertainty level of the click probability estimate, which is inversely proportional to a number of times the advertisement has been previously presented. *Id.* at 6. The Appellants contend that the claimed invention favors the selection of new ads over older ads if the click probability estimate would otherwise be equal, and thus does not bias against the new ad because there is no data available for it. *Id.* It is alleged that the claims are "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks," and do "not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet." *Id.* at 7. The Appellants argue that claims are directed to manipulations of interactions that are "different than convention and routine Internet actions," allowing for the intelligent determination of "whether a new ad will be popular or not without unfairly being biased against the new ad," and therefore "provides significantly more because [it] resolves a particular Internet-centric problem specifically arising in the realm of computer networks by providing optimal ad selection for Internet-delivered advertisements and by intelligently choosing new ads to serve to . . . users based on the new ad's uncertainty." *Id.* at 8. The Appellants additionally allege that the claims are not merely to the routine or conventional use of the Internet. *Id.* at 8.

After considering the Appellants' arguments and the evidence presented in this appeal for the § 101 rejection, we are persuaded that the Appellants identify reversible error, and we therefore reverse this rejection. We add the following for emphasis.

To provide context, 35 U.S.C. § 101 provides that a new and useful "process, machine, manufacture, or composition of matter" is eligible for patent protection. The Supreme Court has made clear that the test for patent eligibility under Section 101 is not amenable to bright-line categorical rules. *See Bilski v. Kappos*, 130 S. Ct. 3218, 3229–30. There are, however, three limited, judicially-created exceptions to the broad categories of patent-eligible subject matter in § 101: laws of nature; natural phenomena; and abstract ideas. *See Mayo Collaborative Services v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293 (2012).

In *Alice Corporation Pty, Ltd. v. CLS Bank International*, 134 S. Ct. 2347 (2014) ("*Alice*"), the Supreme Court reiterated the framework set forth previously in *Mayo*, "for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of these concepts." *Alice,* 134 S. Ct. at 2355 (citation omitted). Under *Alice*, the first step of such analysis is to "determine whether the claims at issue are directed to one of those patent-ineligible concepts." *Id.* (citation omitted). If determined that the claims are directed to a patent-ineligible concept, the second step in the analysis is to consider the elements of the claims "individually and 'as an ordered combination"' to determine whether the additional elements "'transform the nature of the claim' into a patent-eligible application." *Id.* (citing *Mayo*, 132 S. Ct. at 1291, 1297). In other words, the second step is to "search for an 'inventive concept'—i.e., an element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.'" *Id.* (citing *Mayo*, 132 S. Ct. at 1294).

Here, in the first step of the analysis, the Examiner found that because the claims are directed to targeted marketing that constitute a fundamental economic practice and/or method of organizing human activities, the claims are therefore directed to an abstract idea. Although advertising practices have been found to be an abstract idea (*see Ultramercial, Inc. v. Hulu, LLC*, 774 F.3d 709 (Fed. Cir. 2014)), our reviewing court has also considered whether the focus of a claim is to computer-related technology in evaluating whether a claim is an abstract idea. *Enfish, LLC v. Microsoft Corp.*, 822 F. 3d 1327, 1334–1339 (Fed. Cir. 2016); *DDR*, 773 F.3d at 1257 (Fed. Cir. 2014).

Here, without reaching the issue of whether the first step of the claims is directed to the abstract idea exception, we will address the second step of the analysis as further discussed below. We determine that, even if the claims were to be deemed to be directed to an abstract idea, under the second step of the *Alice* analysis, the weight of the evidence supports that the claims are directed to "significantly more" than an abstract idea.

For the evaluation of the second step, we consider the claimed invention in view of its Specification. The Specification states that there is an optimal trade off of current revenue potential with future revenue potential, with the consideration of the uncertainty surrounding these estimates of revenue potential. Spec 8:15–17. It further discloses that ads that have been frequently placed will have a well-documented current revenue potential, while new ads with few placements represent the possibility of high future potential. *Id.* at 8:15–19. The Specification further states that "there is a big difference between an ad that has been shown 100 times and been selected once and an ad that has been shown 10,000 times

and been selected 100 times, even though each has been selected 1% of the times it has been shown. It is somehow worth something to us to learn more about the first ad, as it is quite possible that it will turn out to be a very popular ad." *Id.* at 13:22-14:4. As discussed, "[a]ds may lose their effectiveness over time, and people's attributes will certainly evolve over time." *Id.* at 13:13-14. The Specification's discussions support that the claims are not only directed to Internet-specific interactions, but also, as the Appellants argue, that the claims are directed to actions "different than convention and routine Internet actions," because of optimization of ad selection for Internet-delivered advertisements in a manner that has not been demonstrated to be a routine or conventional use of the Internet. We therefore cannot sustain the Examiner's rejection of claims 10–12, 15–21, and 24–29 under § 101.

35 U.S.C. § 103

The Appellants argue that, although the Examiner relies upon Robinson to teach the limitation of independent claims 10, 18, and 27 of "the uncertainty level being inversely proportional to a number of times the advertisement has been previously presented," the reference fails to teach the limitation. App. Br. 9–10. More specifically, the Appellants allege that although Robinson teaches the use of a "training period" for determining probability, it does not teach the inverse proportionality limitation because its disclosure of a fixed confidence level and presenting the ads in reverse order of the confidence level is not equivalent to a teaching of inverse proportionality to the number of times an advertisement is presented. *Id.* at 9–13.

In the Answer, the Examiner finds that the claims do not determine the number of times that the advertisement has been presented, or that there is any description of a calculation or algorithm used to put the uncertainty level in the state of being inversely proportional. Ans. 17–18. The Examiner further indicates that the claim interpretation used is that the state of the uncertainty level is broadly being inversely proportional to the number of times the ad was previously presented. *Id.* The Examiner further responds by referring to McElfresh's disclosure of the determination of the uncertainty of an advertisement based on the click counts, and, therefore, "McElfresh teaches that the uncertainty level of the click probability estimate will be based on a number of times the Internet advertisement has been previously presented" and an "advertisement that has been served many times will have a much higher click count." *Id.* at 18–19 (citing McElfresh, 11:40–12:29). The Examiner also refers to Robinson for a teaching of the uncertainty level being inversely proportional to a number, referring to its disclosure that the number of impressions is related to click probability, and finding "that given a large number of impressions in the ratio[,] the confidence would be certain because the ratio would be the probability given a large amount of data which in this case is impressions . . . , [t]herefore, the confidence level is inversely proportional to the number of impression." *Id.* at 19 (citing Robinson, 17:2–8, 17:34–42). In reply, the Appellants disagree with the Examiner, arguing that the plain language of the claim is being ignored, that McElfresh's teachings calculating a click-through percentage based on click-throughs seen and a number of impressions is not the same as calculating using an uncertainty level, and that Robinson's click probability is not equivalent to an uncertainty level

that is inversely proportional to the times an ad has been presented. Reply Br. 11–13.

After considering the Appellants' arguments and the evidence presented in this appeal for the § 103 rejection, we are persuaded that the Appellants identify reversible error, and we therefore reverse the obviousness rejection. We add the following for emphasis.

We do not agree with the Examiner's interpretation of the claim language. The plain language of claim 1 is directed the step of determining the uncertainty level of the click probability estimate, where the uncertainty level is inversely proportional to a number of times the advertisement has been previously presented, and there is no basis identified by the Examiner why there should be a difference in the meaning of the claims other than that of the language of the claim itself. Neither McElfresh nor Robinson explicitly disclose uncertainty levels of the click probability estimates, with the uncertainty level being inversely proportional as claimed. Moreover, McElfresh does not teach, contrary to the Examiner findings, that if an advertisement has been served many times, it will always have a higher click count than will a newer ad, or that the uncertainty level would be inversely proportional. Additionally, under Robinson, even if there are a large number of impressions, there is no rationale provided by the Examiner as to why it would follow that the confidence level would be inversely proportional to the number of impressions. Thus, we cannot sustain the Examiner's rejection of independent claims 10, 18, and 27, or claims 11, 12, 15–17, 19–21, 24–26, 28, and 29, which depend therefrom, under 35 U.S.C. § 103(a).

SUMMARY

The rejection of claims 10–12, 15–21, and 24–29 under 35 U.S.C. § 101 is reversed.

The rejection of claims 10–12, 15–21, and 24–29 under 35 U.S.C. § 103(a) is reversed.

REVERSED